

Figure 9 illustrates an internal component view of wireless mobile phone **200**, in accordance with one embodiment. As illustrated, wireless mobile phone **200** includes the earlier mentioned microprocessor **903**, transmitter/receiver (TX/RX) **913** (also known as transceiver), and so forth, coupled to each other as shown. Additionally, for the illustrated embodiment, wireless mobile phone **200** further includes digital signal processor (DSP) **902**, communication interface **911**, and general-purpose input/output (GPIO) **915**, coupled to each other and to the earlier described elements as shown. Most importantly, wireless mobile phone **200** includes LEDs **214** and non-volatile memory **910** having visualizer **202a** stored therein.

In addition to the conventional functions performed by these elements, the elements are employed to practice the visualization teachings of the present invention earlier described. In particular, among the conventional functions, it is expected that TX/RX **913** may support one or more signaling protocols, including, but not limited to, code division multiple access (CDMA), time division multiple access (TDMA), global system for mobile communications (GSM), cellular digital packet data (CDPD), and so forth. Similarly, communication interface **911** may support one or more serial, parallel and/or wireless communication protocols.

In alternate embodiments, other elements may be added or one or more of the illustrated elements omitted, without departing from the spirit and scope of the present invention. Also, some or all of these elements may be present in a separate detachable device that communicates with the wireless mobile clients via an electrical or optical signaling protocol.

Figure 10 illustrates an internal component view of an “active” version of interchangeable “cover” **821**, in accordance with one embodiment. As illustrated, “active” interchangeable “cover” **821** includes in particular, electronic component **1020**. For the illustrated embodiment, interchangeable “cover” **821** also includes LEDs **214** (disposed and configured on an exterior surface).

In one embodiment, electronic component **1020** is a memory device, e.g. a subscriber identity module (SIM). In alternate embodiments, it may be a microprocessor having embedded memory. For these embodiments, at least visualization agent **204** is stored in the embedded memory. In various embodiments, the entire visualizer **1102**, including visualization controller **212**, as well as agent **204** is stored in the embedded memory. In other words, for these embodiments, the visualization ability is additionally provided or partially provided to wireless mobile phone **200** through the employment of an “active” interchangeable “cover” **821** (i.e. face plate or covering skin), having embedded electronic component **1020** including all or a portion of visualizer **202b**.

Thus, it can be seen from the above description, methods and apparatuses for supplementing wireless mobile communications with visualization of various luminescent patterns to improve communication and entertainment value have been described. As mentioned earlier, while the present invention has been described in terms of the above-illustrated embodiments, the present invention is not limited to the embodiments described. The present invention can be practiced with modification and alternation within the spirit and scope of the appended claims. For example,

predetermined luminescent patterns may be pre-provided, downloaded or retrieved from the integrated electronic component of an interchangeable cover plate ("active" skin).

Further, the predetermined patterns may correspond to a theme, such as a sports theme, holiday theme, cultural theme, and the like. Thus, the description is to be

5 regarded as illustrative instead of restrictive with respect to the present invention.

Patent # 4,952,660